

Academic Service Quality and Instructional Quality

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## **A Study of Academic Service Quality and Instructional Quality**

Keith Greiner and Thomas Westbrook

[7] *Abstract.* This article reports a study of the relationship between academic service quality and instructional quality in higher education. The study included 360 students enrolled in first-year biology course. Eighty-two percent of the participants were in the first semester of their college. Academic service was an adaptation of five business dimensions; instructional quality was measured by nine dimensions. The use of business dimensions suggested that the instructor/student relationship may be seen in the marketing context of an exchange between two parties. The study found a high correlation between academic service and instructional quality. Academic service quality overlapped instructional quality in three dimensions: enthusiasm, organization, and rapport. The findings suggest relationships exist at both an overall level and at subscale levels across a variety of demographic variables. The factor constructs of instructional quality are clearly distinguished from academic service quality, but there is an overlap in constructs describing interpersonal relationships. The study has major significance for the blending of academic and student personnel concerns in the academy. The authors recommend long-term studies of [8] relationships between expected and observed quality, long-term relationships between instruction and service quality, and adaptation of the instruments to distance-learning.

Today's consumers, more than any in history, view the world from a marketing perspective. The fundamental idea of a marketing perspective is that there is an exchange of money for goods, services or information that is satisfying to both the purchaser and the provider (Kotler, 1967). Kotler and Fox (1985), Ryans and Shanklin (1986), and Shoemaker (1997) extended the notion of marketing from a description of a private sector business activity, to a higher education activity. In higher education, student money, time, and energy are exchanged for information and education provided by faculty.

A satisfying exchange relationship between the consumer and the provider must, from the consumer perspective, provide customer satisfaction. Boulding, Kalra, Staelin and Zeithaml (1993), and Parasuraman, Zeithaml, and Berry (1985) described customer satisfaction as the difference between observed and expected quality. The difference is described as the "disconfirmation" or "quality gap." A positive gap suggests the product exceeds expectations while a negative gap suggests the product quality does not meet expectations.

This study links the business notion of service quality with traditional ideas of classroom instructional quality. From this perspective, students were seen as customers and the college or university was seen as a provider of higher education products. The purpose of the study was to determine if a relationship existed between the business construct of

service quality and the higher education construct of instructional quality in a cohort of primarily first-year students.

When adapted to the higher education environment, the business idea of service quality, renamed *academic service quality*, describes many non-classroom services provided by faculty such as availability, reliability, trustworthiness and empathy. [9] *Instructional quality* includes evaluations of learning achieved, enthusiasm, organization, interaction, individual rapport, breath, assignments and workload.

The study contributes to the literature by examining the relationship between primarily out-of-class services provided by faculty and the traditional classroom services provided by faculty. The study has major significance to the blending of academic and student personnel concerns in the academy, providing a plank in the bridge between classroom and the institutional ethos.

The Appendix provides a list of essential terminology describing theoretical constructs in three levels: (a) primary constructs, (b) subscale constructs, and (c) survey instrument questions. The *primary constructs* depict a view of service quality having two dimensions: academic service quality and instructional quality. The quality of academic service is composed of selected tangible items in the student environment and non-tangible relationships between instructor and student, while instructional quality describes the interaction between faculty and students, primarily taking place in a traditional classroom.

Each dimension is divided into smaller units of subscale constructs based upon the theoretical designs of previous researchers who created instruments used in this study. An adaptation of a Service Quality (SERVQUAL) instrument developed by Parasuraman, Zeithaml and Berry (1988) measures academic service quality with five subscales, while the Students' Evaluation of Educational Quality (SEEQ) instrument (Marsh, 1987) measures instructional quality with nine subscales.

The terminology used in this report describes each instrument subscale as a *subscale construct*. The third level, *survey instrument questions*, describes the detailed survey instrument questions selected by Parasuraman et al. (1988), and Marsh (1987) to represent their theoretical constructs.

[10] Service quality is usually thought of as an attribute of business activities, and if applied to higher education would be an attribute of student or business services. Doyle and Newbould (1986), extended the application of traditional business practices to higher education using marketing as the link between a wide variety of business practices and higher education practices. Shoemaker (1997) advocated the application of business practices to higher education, suggesting that the use of marketing concepts is essential to survival of private institutions.

Kotler and Fox (1985) proposed the use of service quality measurements of student service components when developing higher education strategies. Devine (1995) and Ruby (1998)

both applied adaptations of the Parasuraman et al. (1988) SERVQUAL measurement instrument to non-classroom higher education environments.

The non-classroom environment has been the focus of extensive research and comment as an important element of the higher education experience. Kotler(1967) suggested non-classroom service quality combines with the student's classroom experience to form a general perception of quality teaching. Sturmer (as cited in Kotler & Fox, 1985) examined the holistic educational environment, suggesting that the building architecture, and landscape of the institution should evoke the feeling of a tone poem, a festival, or a composition that washes over the community of learners.

Kuh et al. (1991) suggested clear distinctions do not always exist between learning that takes place inside the traditionally defined classroom and learning that results from contact with the instructor outside the classroom. Tinto (1993) found that faculty actions within the traditionally defined classroom combine with faculty actions outside the classroom to provide a foundation by which the individual judges the quality of the institution. Such actions also contribute to student persistence at the institution.

Astin's (1993) theory of student involvement advances the idea that undergraduate cognitive and affective development [11] are positively related to learner activities that involve environment, student peers, and faculty. Astin suggested that examining different forms of involvement would be an important next step in evaluating his theory. This study addressed the issue by adapting the business constructs of tangibles, reliability, responsiveness, assurance, and empathy to instructional activities that are thought to lie mostly outside the classroom environment. The five constructs are examined as they relate to a traditional classroom view of instructional quality.

### *Academic Service Quality*

Service quality in the instructional environment will be called *academic service quality*. Service quality generally emphasizes two themes: service quality and customer satisfaction. The fundamental difference between the two is a matter of degree. Studies by Fishbein (1967) Howard and Sheth (1969), Olson and Dover (1979), Oliver (1980), Churchill and Suprenant (1982), and Brown and Swartz (1989) use the term *satisfaction* to describe a specific transactional relationship between customer and product or service provider. Boulding et al. (1993) described service quality as an aggregation of specific transactional satisfaction encounters. They suggested that a collection of satisfaction experiences will aggregate into an indication of service quality.

Typical models focus on customer expectations compared to observed, delivered service. The gap between expected and observed service is described as a disconfirmation (Oliver, 1980) or service quality gap (Parasuraman et al., 1985). Parasuraman et al. (1988) offered a service quality instrument, the SERVQUAL as a broadly applicable measure of service quality expectations and observed quality.

Boulding et al. (1993) suggested that aggregations of customer experiences create customer expectations of what *should* or expectations of what *will* occur, and the two elements may be compared to what actually does occur. The relationship may be described as Satisfaction = Observed - Expected. A [12] positive value suggests that observed quality exceeds expected quality while a negative value suggests the opposite. An organization can change the satisfaction level by affecting the expectation of what should or will occur or by affecting what actually does occur.

The SERVQUAL instrument provides a measurement of this relationship because it includes a section that examines expectations and a section that examines observed quality. Although the SERVQUAL instrument was designed for customers to evaluate expected and observed quality at one sitting, the instrument design lends itself to the pre-test/post-test design used in this study. The SERVQUAL has been shown to provide reliable, valid data along five subscale construct dimensions:

*Tangibles*: Physical facilities, equipment, and appearance of personnel

*Reliability*: Ability to perform the promised service dependably and accurately

*Responsiveness*: Willingness to help customers and provide prompt service.

*Assurance*: Knowledge and courtesy of employees and their ability to inspire trust and confidence.

*Empathy*: Caring, individualized attention (Parasuraman et al., 1988, p. 23)

Kotler and Fox (1985) suggested the SERVQUAL instrument would be appropriate in a higher education service environment. Devine (1995) and Ruby (1998) applied the SERVQUAL to various non-academic service settings at private higher education institutions and found significant gaps for all dimensions except tangibles. Devine studied service at the institutional level and suggested that future studies should focus on a smaller unit of the institution. [13]

This study focused on the recommended smaller unit of service provided by instructors and examined the relationship between academic service and instructional quality. First-year students' expected quality, observed quality, and quality gap are significant concepts to study because each student's elementary and secondary school careers are filled with personal experiences, experiences shared with family and friends, and impressions from promotional material that build expectations of what should or will occur when the student finally arrives at the university campus. The SERVQUAL instrument provides a pre-/post-mechanism to help us learn how the experience compares with expectations.

### *Instructional Quality*

Interest in instructional quality has a long history that dates at least to 399 BC and concerns about Socrates' teaching style (Xenophon, 1861). Modern interest is extensive as indicated by Marsh (1987) who identified 138 articles dealing with instructional quality published between 1905 and 1948. In 1976, Marsh tallied over 1,000 articles about teacher effectiveness listed in the ERIC database. A 1999 search using Marsh's original search keys identified 1,230 articles in the ERIC database.

Cohen's (1981) meta-analysis of 41 validity studies concluded objective measures of instructional quality provide valid data for the evaluation of instruction. A frequently cited study completed by Marsh (1982) examined a variety of possible instructional quality indicators using input from faculty and students. Marsh's factor analysis revealed a variety of indicators in nine theoretical constructs: learning, enthusiasm, organization, group interaction, individual rapport, breadth, examinations, assignments, and overall workload. Subsequent studies used these constructs to obtain ratings from over a million evaluations from 50,000 courses at UCLA. Marsh's instrument has been shown to provide reliable, valid data. [14]

### *Research Questions*

This study combined the service quality line of inquiry with the instructional quality line of inquiry to seek answers to three research questions. The questions first sought to determine if a relationship exists between student perceptions of service quality and instructional quality. The questions then sought to further examine the issues by exploring key demographic characteristics and by exploring the fundamental service quality relationship: the difference between observed and expected service quality. The questions are shown below:

1. Is there a relationship between the perception of instructional quality and academic service quality for a cohort of primarily first-year students in a higher education setting?
2. Is there a relationship between the perception of instructional quality subscales and academic service quality subscales in a cohort of primarily first-year students in a higher education setting?
3. Is there a relationship between perception of instructional quality and academic service quality as they relate to the independent variables of gender, age, English as a native language, full-time/part-time status, miles from home, high school grade point average, college placement scores, citizenship, and employment?

## Methodology

The study used two questionnaires combined into one instrument -- the SERVQUAL and the SEEQ -- to examine a cohort of 360 undergraduate students at a leading midwestern private university. Two hundred and forty-five students completed the pre-test of expected quality, and the post-test of observed quality. The pre-test was administered during the third class period after the beginning of the fall semester while the post-test was administered near the end of the semester, but before [15] final exams. Eighty-two percent ( $N = 198$ ) of the students were in the fall term of their first year at the institution. All the students were enrolled in an introductory biology class.

The students were instructed to evaluate expectations and observed experiences of not only the biology class but also of all other classes they were currently taking at the university. This generalization, in effect, was intended to encourage the students to form a perceived level of expectation across all their courses, and reduce the possibility of adverse conclusions related to the class instructor. In essence, the students evaluated the institution, not the instructor. The students were advised of the confidential nature of their responses. Each questionnaire included a space for the last four digits of the student social security number, and each signed a release indicating an understanding of the survey parameters. The partial social security number was used to match pre-test and post-test questionnaires on a one-for-one basis.

The design followed a Gall, Borg and Gall (1996) pre-test/post-test design. In this design the pre-test measure of expectations is followed by a period of time in which the customer experiences the product and aggregates the experiences to a revised level of perceived service quality. The post-test then measures the observed quality. The service quality gap becomes the difference between pre-test expectations and post-test observed quality. The absence of a comparison group is supported in literature including Gall, Borg and Gall. The nature of the subject institution precluded a tightly controlled comparison group.

Comparisons with similar groups at other institutions were not feasible and are left to future researchers. History and maturation are sometimes cited as limitations of this design, but it can also be argued that consumer maturation is an essential part of the marketing process described by the long history of investigations into consumer behavior from Oliver (1980) to Boulding et al. (1993) and beyond. In this [16] context, maturation may actually be a strength rather than a weakness because the first-year experience is known to influence observed behavior, and, in fact, the study's purpose may be restated as an investigation into the first-semester experience. A perfectly controlled experiment would be unrealistic, unnatural, and of minimal value (Wiersma, 1991). The study was conducted in as natural a setting as possible, and applying Wiersma's suggestion, was intended to reflect the reality of what occurs in the institutional setting with all its inherent ambiguities.

The analysis included correlation analysis and factor analysis. The correlation values were intended to provide an understanding of the relationship between variables identified in the research questions. Factor analysis, which uses correlation as its basis, was used because Comrey and Lee (1992) suggested it can be helpful for identifying theoretical constructs.

While the literature suggests a debate on whether factor analysis provides an undisputable view of constructs, Comrey and Lee suggested that quality factor advice requires additional interpretative activity on the part of the analyst. Both of two subject instruments were created using factor analysis. The combination of the two instruments suggested that factor analysis enable researchers to identify the possibility of new constructs.

## **Results**

The pre-test included responses from 360 individuals while the post-test included 268 responses; 245 pre-test and post-test responses matched. The decline of 115 responses was attributed to the fact that the post-test occurred on the Friday before a long Thanksgiving weekend. However, measured pre-test responses showed no significant differences ( $p < .01$ ) between the 245 respondents and the 115 non-respondents. Eighteen individuals dropped the class during the semester. Again, the difference between the pre-test scores for 245 respondents and the 18 individuals who dropped were not significant with  $p < .01$ .

[17] The respondents were mostly female (69.0%), full-time students (99.6%), ages 18 and 19 (89.9%), and in the first year of college (82.2%). Questions one and two were analyzed using a three-part approach that examined the expected quality, observed quality and service quality (gap) as separate units of comparison groups. The following paragraphs summarize the comparisons. Table 1 shows selected summaries of demographic variables. The following analysis restates each research question and highlights findings.



Table 1 <i>Selected of Demographic Variables</i>		
Gender	Frequency	Percent
Male	76	31.0%
Female	169	69.0%
Total	245	100.0%
Enrollment Status	Frequency	Percent
Full-Time	244	99.6%
Part-Time	1	0.4%
Total	245	100.0%
Age	Frequency	Percent
17	1	0.4%
18	120	49.2%
19	99	40.6%
20 and over	24	9.8%
Total	244	100.0%
Year in College	Frequency	Percent
First	198	82.2%
Second	29	12.0%
Third	8	3.3%
Fourth	5	2.1%
Fifth	1	.4%
Total	241	100.0%

[18]*Question 1:* Is there a relationship between the perception of instructional quality and academic service quality for a cohort of primarily first-year students in a higher education setting?

The responses indicated a substantial relationship between the overall service quality and instructional quality scores in all three comparison groups: expected, gap, and observed. Table 2 summarizes the relationships between all three comparison groups. Each of the correlation levels is significantly different from a zero correlation at  $p < .05$ . This means first-year students perceive a relationship between the instruction that takes place within the traditional classroom environment and things that involve service provided by the faculty and border on the college or university environment.

Table 2

*Correlation of Academic Service Quality and Instructional Quality*

	<i>r</i>	95% Confidence <i>Interval</i>	<i>N</i>	<i>t</i>	<i>p</i>
Expected	0.51959	.098	245	10.76	0.000*
Gap	0.63289	.075	244	16.46	0.000*
Observed	0.72489	.076	244	23.79	0.000*

*t* is significant at the .05 level.

*Question 2:* Is there a relationship between the perception of instructional quality subscales and academic service quality subscales in a cohort of primarily first-year students in a higher education setting?

Each of the three elements of this analysis, (expected, gap, and observed) was analyzed separately using factor analysis. Correlation matrices for all subscale variables in each of the expected, observed, and gap groups were prepared and factor analyzed using a principal components method and four rotation alternatives: equamax, orthomax, parsimax, and [19] varimax. Equamax variables are presented in Table 3. Factor weights greater than or equal to .40 were included in factor constructs based on suggestions from Comrey and Lee (1992) and Williams (1968). Table 3 shows the weights greater than or equal to .40 for each of the three areas of analysis.

[20]

Table 3

*Equamax Rotated Factor Solutions for Subscale Factor Scores  $\geq .40$*

Source Instrument	Variable	Expected Quality			Quality Gap			Observed Quality	
		Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3	Factor 1	Factor 2
SERVQUAL	Tangibles	0.69923					-0.41409		0.57308
SERVQUAL	Reliability	0.50861		0.48253		0.72381			0.84372
SERVQUAL	Responsiveness			0.76601		0.76869			0.74672
SERVQUAL	Assurance	0.59337				0.45826		0.40338	0.50428
SERVQUAL	Empathy			0.84643		0.79086			0.68941
SEEQ	Learning		0.72787		0.45924		0.53393	0.74492	
SEEQ	Enthusiasm	0.72179			0.59762	0.46942		0.60711	0.51519
SEEQ	Organization	0.66637			0.62893	0.40723		0.63097	0.54283
SEEQ	Group Interaction		0.52505		0.56808			0.71811	
SEEQ	Rapport	0.53798		0.47297	0.50318	0.64286		0.55828	0.65361
SEEQ	Breadth		0.57667		0.60303			0.72906	
SEEQ	Exams	0.41940			0.64566			0.61829	
SEEQ	Assignments		0.58195		0.72877			0.67227	
SEEQ	Workload		0.68458				0.86362	0.62807	
	Explained by selected	2.53004	1.94534	1.75975	2.85114	2.74971	1.20239	4.07192	3.31475
	Explained by all	2.88419	2.25828	2.00194	3.16433	3.12759	1.34789	4.28779	3.79286
	Unexplained by selected	0.35414	0.31295	0.24219	0.31319	0.37788	0.14550	0.21588	0.47811
	Percent explained by selected	87.7%	86.1%	87.9%	90.1%	87.9%	89.2%	95.0%	87.4%

The factor constructs for students' expected quality included service scales: tangibles, reliability, and assurance as well as the instructional scales for enthusiasm, rapport, and examinations. The expected quality is the students' expectation of what should or will occur and was measured near the beginning of the semester, using the pre-test instrument.

Three of the five service quality subscales appeared as part of Factor 1, along with four of the nine instructional quality scales. Factor 1 lacked a strong conceptual pattern compared to Factor 2, which showed a clear distinction between service quality and instructional quality. None of the service quality subscales were included in Factor 2 while five of the nine instructional quality scales were included. When the three constructs are viewed in a timeline order from expected, through the gap to observed quality the data indicate a movement of the Factor 2 (expected) to Factor 1 for both the gap and observed quality.

The service quality gap is the difference between the students' expected and observed quality scores. The gap was analyzed using the same factor analysis as the expected quality. However, in this analysis, Factor 1 demonstrated a high level of discrimination because none of the five service quality constructs were included and eight of the nine instructional quality constructs were included.

Factor 2 showed a remarkably different view. Here, four of the five service quality constructs were included, as were the instructional constructs of enthusiasm, organization, and group interaction. Factor 3 included three subscales, of which two were distinct from Factors 1 and 2. The three were tangibles (found to be negatively weighted), along with [21] the learning construct, which was also included in Factor 1 and the instructional overall workload construct. Factor 1 was interpreted to distinguish clearly between service and instructional quality, while Factor 2 suggested the two are separate with overlapping elements.

The observed quality is the students' perception of quality, measured near the end of the semester by the post-test. The factor analysis of observed quality identified two factors. Factor 1, included all the instructional quality subscales and the assurance subscale from the service quality group. The factor weight for assurance was 0.40339 which was only 0.00339 greater than the cut-off.

Factor 2 included all service quality subscales and three instructional quality subscales: enthusiasm, organization, and rapport. Viewed together, Factor 1 can be seen as clearly distinguishing between service and instructional quality, while Factor 2, suggests the two are separate with overlapping elements. This means that first-year students are capable of viewing instructional and academic service as both separate and overlapping phenomena.

*Question 3:* Is there a relationship between perception of instructional quality and academic service quality as they relate to the independent variables of gender, age,

English as a native language, full-time/part-time status, miles from home, high school grade point average, college placement scores, citizenship, and employment?

This question was addressed at two levels. First, the tabulations were examined for meaningful distributions. Analyses of variables, English as a native language, full-time status, and citizenship were not explored further because the overwhelming number of responses were in one category: participants were largely English speaking, full-time students, and U.S. citizens. Other variables were analyzed using ANOVA and only two variable pairs showed significance of  $p < .05$ . [22] Although the two sets of pairs had significant values of  $F$ , they had low correlation values and did not demonstrate a meaningful pattern. Overall, it was clear that these tabulations did not result in meaningful conclusions to address question 3.

The relationship between service and instructional quality was examined by comparing the Parasuraman et al. (1988) theoretical constructs with Marsh's (1982) instructional quality constructs developed for use in a traditional classroom setting. Parasuraman's constructs include tangibles, reliability, responsiveness, assurance and empathy. Marsh's instructional quality constructs include learning, enthusiasm, organization, group interaction, individual rapport, breadth, examinations, assignments, and overall workload/difficulty. The quality of service was measured using an adaptation of the Parasuraman et al. (1985, 1988) method which examined customer expectations measured as a pre-test, customer observations measured as a post-test, and the level of satisfaction measured by the difference (gap) between observed and expected values.

Table 4 shows correlations ranging from .52 to .72 with  $p < .001$  for expected quality, observed quality, and quality gap. The discovery of significant relationships between academic service and instructional quality in the expected, gap, and observed comparisons suggests a connection exists between traditional in-class activities and this small step toward the world outside the classroom. The finding supports

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Table 4  
*Correlation of Academic Service Quality and Instructional Quality*

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	<i>r</i>	95% Confidence <i>Interval</i>	<i>N</i>	<i>t</i>	<i>p</i>
Expected	0.51959	.098	245	10.76	0.000*
Gap	0.63289	.075	244	16.46	0.000*
Observed	0.72489	.076	244	23.79	0.000*

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[23] Tinto's (1993) suggestion that faculty actions outside of class influence the way students "come to judge the intellectual ethos of the institution" (p. 53).

The nature of the relationship between service and instructional quality was further illuminated by three factor analyses summarized in Table 4. The factor analyses provide two distinct perspectives. First, from the instructional quality direction, the two constructs of service and instructional quality are seen as separate from each other. Factor 2 in the expected quality measurement and Factor 1 in both the quality gap and observed quality measurements includes many instructional quality subscale items as they exclude service quality. Second, from the service quality perspective, the relationship is very different. Here most service quality subscales are included while only the instructional quality subscales for enthusiasm, organization and rapport are included.

## **Discussion**

The purpose of this study was to determine if there is a relationship between academic service quality and instructional quality for the identified cohort. Academic service quality was defined based upon a business service quality model adapted to higher education instruction. In this adaptation, the quality is a more business-like notion of service which is not the classroom instructional activity, but is part of the educational provider/customer relationship.

In the university context, academic service quality includes the tangible classroom facility and equipment and various less tangible relationships between faculty and student. It includes interaction with the instructor as not only a provider of in-class instruction, but also as a provider of service. In this context, service may mean the instructor is willing to help students, responds promptly to student requests. Service may also mean students receive adequate support from the college or university, and that the institution has operating hours convenient [24] for the students. The correlation analyses indicate that from the students' perspective, there is indeed a substantial relationship between academic service quality and instructional quality.

An examination of the instruments' questions showed that instructional enthusiasm questions (enthusiasm, energy, use of humor, and holding of interest) and organization questions (clear explanation, meeting objectives, and lectures that facilitate note-taking) have no *prima facie* similarity to questions in the service quality questionnaires. However, the instructional quality questions for rapport (friendliness, advice outside class, genuine interest, and accessible office hours) are similar to service questions of quality related to being sympathetic (willingness to help, prompt response, knowing individual needs, having the student's best interest at heart and convenient operating hours) with *prima facie* elements from reliability responsiveness and empathy subscales. Thus it is reasonable that the Factor 2 loadings for service quality subscales for reliability, responsiveness and empathy all exceed .72 while the instructional quality subscale for rapport is the highest of the three instructional scales included in Factor 2.

Because the enthusiasm and organization subscales are unique to the instructional instrument, and because they appear in the service quality factor loadings, they may be new subscales which would provide an added perspective to the evaluation of quality if added to the instructional quality instrument.

The relationship between academic and instructional quality did not extend to the demographic variables including gender, age, English as a native language, full-time versus part-time status, miles from home, high school grade point average, college placement scores, citizenship, or employment. This finding occurred partially because the demographic characteristics were largely unbalanced. The majority of respondents were U. S. Citizens, spoke English as their native language, were full-time students, were 18 and 19 years of age, attended [25] college more than 100 miles from home, and were employed less than full-time. Clearly the study could benefit from a replication in a population that includes greater diversity in these areas. The finding of a lack of significant relationship between academic service quality and instructional quality for gender and grade level supports Cashin's (1985) finding that gender and grade level are not related to ratings of instruction while contradicting Astin's (1993) suggestion that females report higher ratings for instruction.

### *Conclusions*

When the study's findings are considered in the context of the previous discussion, the researchers were drawn to the following conclusions and new theoretical propositions:

1. Students' perceptions of academic service quality are closely related to their perceptions of instructional quality.
2. Students perceive instruction as a construct that is separate from service quality, and yet can also see some overlap of the two.
3. In contrast with the instruction construct, some service-quality constructs which describe human relationships, are also instructional quality constructs.
4. Perceptions of academic service quality and instructional quality are similar across a variety of demographic characteristics.
5. The inclusion of both the business service and instructional subscales in an identified factor suggests that the business/marketing exchange relationship is present in the faculty/student relationship from the student perspective.

### *Recommendations for Future Research*

As data and conclusions were evaluated, a number of possible avenues of future research surfaced. The recommendations are presented in the hope that future researchers will continue [26] to explore the relationship between academic service quality, and instructional quality. Some studies found in the literature suggested that responses to evaluation instruments like the SERVQUAL and the SEEQ may be influenced by the short-term or underlying characteristic personality or mood (affect) of the respondent. Future studies might investigate the relationship between evaluation and mood in a higher education environment.

The two instruments used in this study were developed for use in face-to-face service and instructional experiences. The development of modern distance learning programs suggests a need to adapt the instruments and their underlying theory to distance learning. The demographic characteristics of those responding to this study were concentrated in a few categories: English speaking, full-time, ages 18 and 19 years. The study of service quality and instructional quality could benefit from a replication in an environment that provides a more diverse population.

The discovery of a negative gap between expected and observed quality needs additional study. Future studies might examine whether the negative gap is universal in higher education (or education in general) and what instructional or environmental elements might reduce the gap or create a positive gap. Researchers might also compare the relationship between the gap and overall learning. It would also be appropriate to conduct confirmatory studies of the faculty/student relationship within a marketing context.

This study examined a cohort of primarily first-year students during the first semester of their higher education experience. Future studies could follow a cohort of students as they progress through the entire higher education experience.

### **References**

Astin, A. W. (1993). *What matters in college: Four critical years revisited*. San Francisco, CA: Jossey-Bass.

[27]

Boulding, W., Kalra, A., Staelin, R., & Zeithaml, V. (1993, February). A dynamic process model of service quality: From expectations to behavioral intentions. *Journal of Marketing Research*, 30, 7-27.

Brown, S. W., & Swartz, T. A. (1989, April). A gap analysis of professional service quality. *Journal of Marketing*, 53, 92-98.

Cashin, W. E. (1995). Student ratings of teaching: The research revisited, IDEA Paper Number 32. Manhattan, KS: Center for Faculty Evaluation and Development.



- Churchill, G. A., & Suprenant, C. (1982, November). An investigation into the determinants of customer satisfaction. *Journal of Marketing Research*, 491-504.
- Cohen, P. A. (1981). Student ratings of instruction and student achievement: A meta-analysis of multisection validity studies. *Review of Educational Research*, 51(3), 281-309.
- Comrey, A. L., & Lee, H. B. (1992). *A first course in factor analysis* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Devine, L. W. (1995). An assessment of service quality in a private postsecondary setting (Doctoral dissertation, University of South Florida, 1995). *Dissertation Abstracts International*, (56-12A), AA19610288.
- Doyle, P., & Newbould, G. D. (1986). A strategic approach to marketing a university. In C. Ryans & W. L. Shanklin (Eds.), *Strategic planning, marketing and public relations and fundraising in higher education: Perspectives, readings and annotated bibliography* (pp. 16-39), Metuchen, NJ: Scarecrow Press.
- Fishbein, M. (1967). Attitude and the prediction of behavior. In M. Fishbein. (Ed.), *Readings in attitude theory and measurement*. (pp. 477-492). New York, NY: John Wiley and Sons.
- Gall, M. D. , Borg, W. R. & Gall, J. P. (1996). *Educational research* (6th ed.). White Plains, NY: Longman Publishers.
- Howard, J. A. & Sheth, J. N. (1969). *The theory of buyer behavior*, New York, NY: John Wiley and Sons.
- Kotler, P. (1967). *Marketing management: Analysis, planning and control*. Englewood Cliffs, NJ: Prentice Hall.
- Kotler, P. A., & Fox, K. F.A. (1985). *Strategic marketing for educational institutions*. Englewood Cliffs, NJ: Prentice-Hall.
- Kuh, G. D., Schuh, J. H. Whitt, E. J., Andreas, R. E., Lyons, J. W., Strange, C. C., et al. (1991). *Involving colleges: Successful approaches to fostering student learning and development outside the classroom*. San Francisco, CA: Jossey-Bass.

[27]

- Marsh, H. W. (1982). SEEQ: A reliable, valid and useful instrument for collecting students' evaluations of university teaching. *British Journal of Educational Psychology*, 52, 77-95.
- Marsh, H. W. (1987). Student's evaluations of university teaching: Research findings, methodological issues, and directions for future research. *International Journal of Educational Research*, 11, 253-388.
- Oliver, R. (1980, November). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17, pp. 460-469.
- Olson, J. C., & Dover, P. (1979, April). Disconfirmation of consumer expectations through product trial. *Journal of applied Psychology*, 64, pp. 179-189.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985, Fall). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, (49), pp. 41-50.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12-40.

- Ruby, C. A. (1998). Assessing satisfaction with selected student services using SERVQUAL, a market-driven model of service quality. *NASPA Journal*, 35(4), 331-341.
- Ryans, C. C., & Shanklin, W. L. (1986). *Strategic planning and public relations and fundraising in higher education*. Netuchen, NJ: Scarecrow Press.
- Shoemaker, C. (1997). *The current state of marketing at midwestern private higher educational institutions and the role played by the president*. Unpublished doctoral dissertation. University of Iowa, Iowa City.
- Tinto, V. (1993). *Leaving college* (2nd ed.). Chicago, IL: University of Chicago.
- Wiersma, W. (1991). *Research methods in education* (5<sup>th</sup> ed.). Needham Heights, MA: Simon and Schuster.
- Williams, F. (1968). *Reasoning with statistics*. New York, NY: Holt, Rinehart and Winston.
- Xenophon. (1861). *The anabasis, or expedition of Cyrus, and the memorabilia of Socrates*. (Rev. J. S. Watson, Trans. ). New York, NY: Harper & Brothers.

### Suggested Reading

- Astin, A. W. (1976). *Academic gamesmanship: Student-oriented change in higher education*. New York, NY: Praeger.

[29]

- Astin, A. W. (1985). *Achieving educational excellence A critical assessment of priorities and practices in higher education*. San Francisco, CA: Jossey-Bass.
- Berry, L. L., Bennett, D. R., & Brown, C. W. (1989). *Service quality: A profit strategy for financial institutions*. Homewood, IL: Business One Irwin.
- Campbell, D. T. & Stanley, J. C. (1963). *Experimental and quasi-experimental designs for research*. Chicago, IL: Rand McNally College Publishing Company.
- Doyle, K. O. (1983). *Evaluating teaching*. Lexington, MA: Lexington Books.
- Gutek, G. L. (1997). *Historical and philosophical foundations of education: A biographical introduction* (2nd ed.). Upper Saddle River, NJ: Merrill.
- Hill, F. (1997). The implications of service quality theory for British higher education. *Journal of General Education*, 46(3) 207-231.
- Hood, A. B., Craig, A. F., & Ferguson, B. W. (1992). *Journal of College Student Development* 33. 447-453.
- Kleinbaum, D. G., & Kupper, L. L. (1978). *Applied regression analysis and other multivariable methods*. Boston, MA: Duxbury Press.
- Kline, P. (1997). *An easy guide to factor analysis*. London, Rutledge.
- Kuh, G. D. (1990). The demographic juggernaut. In *New futures for student affairs: Building a vision for professional leadership and practice*. San Francisco, CA: Jossey-Bass.
- Marsh, H. W., & Roche, L. A. (1997). Making students' evaluations of teaching effectiveness effective: The critical issues of validity, bias and utility. *American Psychologist*. 52(11) 1187-1197.

- Marsh, H. W. (1997). *Students' evaluations of educational quality (SEEQ): An overview*. Cambelltown, New South Wales: University of Western Sydney.
- Pride, W. M., & Ferrell, O.C. (1991). *Marketing: Concepts and strategies* (7th ed.). Boston, MA: Houghton Mifflin Company.
- Soutar, G., N., McNeil, M. & Lim, K. (1996). Service quality in educational institutions: A foreign student view. *Journal of Marketing for Higher Education*. 7(2). 1996, 85-94.
- Williams, W. M. & Ceci, S. J. (1997). How am I doing? Problems with student ratings of instructors and courses. *Change* 29(5), 12-24.
- Zeithaml, V. A. Parasuraman, A. & Berry, L. L. (1990). *Delivering quality service: Balancing customer perceptions and expectations*. New York, NY: The Free Press.

## Appendix A

### 1 Primary Constructs

Academic service quality measured with the SERVQUAL

Instructional quality measured with the SEEQ

### 2 Subscale Constructs

Service Quality (five dimensions)

Tangibles

Reliability

Responsiveness

Assurance

Empathy

Instructional Quality (nine dimensions)

Learning

Enthusiasm

Organization

Group interaction

Individual rapport

Breadth

Examinations

Assignments

Overall workload

### 3 Survey Instrument Questions

22 Service quality questions

33 Instructional quality questions

## Notes

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## Key Words

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